

BC Broiler Hatching Egg Facts

September 2013

Direct to Public Egg Sales

All producers are reminded that direct to public hatching egg sales are not permitted in BC. A direct to public egg sale is defined as:

- Selling eggs at the farm gate
- Giving eggs away at the farm gate

Eggs not acceptable for incubation (smalls, doubles, cracks, or dirties) may be disposed of on farm through an approved method (see your BC Biosecurity Program manual) or removed from the farm through the Small Egg Program. Breeder cull eggs are ungraded and not fit for human consumption.

SE Positive Fluff Samples

Jan 2013 – 1
 Feb 2013 – 1
 March 2013 – 2
 April 2013 – 7
 May 2013 – 9
 June 2013 – 1
 July 2013 – 0
 August 2013 – 8

Do not sell or give away any breeder cull eggs.

Production Cycles

Period	Start Date	End Date
A-113	09/09/12	11/03/12
A-114	11/04/12	12/29/12
A-115	12/30/12	02/23/13
A-116	02/24/13	02/20/13
A-117	04/21/13	06/15/13
A-118	06/16/13	08/10/13
A-119	08/11/13	10/05/13

Small Egg Program

Month	Number of Farms With Culled Eggs	Total Eggs Culled
May 2013	1	25 dozen
June 2013	0	-
July 2013	0	-
August 2013	0	-

Pricing Orders

Period	Live Chicken	Hatching Eggs	Saleable Chicks	Day-Old Broiler Chicks
A-118	174.71c/kg	526.27c/doz	54.82c/chick	73.74c/chick
A-119	177.70c/kg	532.73c/doz	55.49c/chick	74.41c/chick

Average Kill Age

July 2013 – 59 weeks
 August 2013 – 59 weeks
 September 2013 – 59 weeks 1 day

A reminder to producers: Due to the extended kill age please pay close attention to your egg shell quality; as a hen ages the shell quality lessens. Please discuss your hen's nutrient requirements with your feed company.

Current Hatchability

Year to Date

Industry Average:

82.32%

(USA eggs included)

A reminder to producers: please fill out the COMB Industry survey that was distributed on Sept. 5th, 2013. Please contact Veronica if you have any questions. Thanks.

Please see the attached SE bulletin

My Flock Has a Positive SE Fluff Sample?

All producers share hatcher space with other breeder producers; there can be more than one farm in a hatcher at any given time. Hatcheries perform fluff samples every six weeks and submit them to the BC Animal Health Centre for analysis. So what happens if you are part of a positive fluff sample?

1. You will received a call from the BCBHEC informing you that you are a part of a positive round of fluff sampling
2. You will schedule an on farm environmental test with Sarah at the earliest date possible
3. You wait for the lab results
4. If your lab results are non-positive for SE you will be tested again in two weeks – if your flock tests positive for SE you will receive a follow up phone call

How does my flock test non-positive for SE?

In order to have a non-positive flock you must have 3 environmental tests taken over a six week period; all 3 tests must be non-positive for SE.

What if one of my 3 tests is positive for SE?

If any of the three tests comes back positive for SE testing is halted.

3 non-positive SE tests = a non-positive flock

1 positive SE test = a positive flock

Salmonella enteritidis

Your Questions Answered – Part 1

September 2013

Why is Salmonella enteritidis dangerous?

Salmonella causes disease in humans and is usually associated with food borne outbreaks. People who have ingested a contaminated food product will typically become sick within 8 to 72 hours and suffer from diarrhea, abdominal pain, and sometime fever. A healthy adult with salmonellosis usually recovers uneventfully in a few days, but it can be life-threatening in young children, seniors, and those with weak immune systems.

How do humans become infected with Salmonella?

Historically, Salmonella infections in humans have been linked to contaminated table eggs; however, human illness is now being traced to contaminated broiler meat and ungraded eggs. If consumers fail to cook their meat and eggs at appropriate temperatures Salmonella will persist in the product and cause harm.

As a means of controlling salmonella in broiler chickens, the existence of salmonella in hatching eggs has been identified as a critical control point.

How do my hatching eggs become contaminated with Salmonella?

Hatching eggs can become contaminated with SE in two ways, through vertical transmission and through horizontal transmission.

Vertical transmission of SE occurs when an infected hen passes SE onto her unborn chick. Oral inoculation (a hen eats litter contaminated with SE for example) of hens can produce an SE infection in the reproductive tract. When this occurs the hens' egg production rate is usually unaffected.

It has been show in research trials that a hens ovary and oviduct, or the reproductive tract, can become colonized with SE through airborne inoculation; delivery of about 100 cells of SE to the eye of a hen produces an infection. On farm airborne inoculation could occur by the spread of contaminated dust, feathers, or litter movement within the barn.

10% of the yolks from orally inoculated hens will be contaminated with SE and produce an SE positive chick.

Reference

Salmonella Penetration of Egg Shells and Proliferation in Broiler Hatching Eggs – A Review by N.A. Cox, M.E. Berrang and J.A. Cason. Journal of Poultry Science 2000.

Horizontal transmission occurs after the egg has been laid or the chick has hatched. The presence of SE in the nest box, in the litter, in the egg cooler, or on hatchery equipment can contaminate an egg. The probable mode of contamination is during the cooling of a moist freshly laid egg, which creates a vacuum pulling bacteria into the egg shell membranes. Shell quality, temperature, and on farm practices can have a great effect on the bacterial penetration of hatching eggs. It has been demonstrated that SE penetration of the cuticle and shell occurs almost immediately in some eggs; for example in one egg, penetration below both membranes was detected six minutes after the shell was exposed to SE. Once SE gets past the cuticle and the shell of an egg there is no way to prevent the growing embryo from becoming contaminated.

Salmonella Persistence

In a trial completed in 1964 it was found that salmonella organisms have the ability to persist for long periods of time. Hatchery fluff samples that were positive for salmonella kept for four years at room temperature still had 1,000 to 1,000,000 viable salmonella cells per gram.

Unlike other bacteria, SE contaminated eggs still hatch. Upon hatching SE is dispersed throughout the hatcher due to the fan-forced air. It has been shown that 80% of the chicks hatched above or below inoculated eggs will test positive for Salmonella sp. (trial was conducted using *S.typhimurium*). Eggs that are carrying Salmonella on the shell exterior can infect chicks once they begin to pip. In a trial, in which eggs were externally inoculated with Salmonella, 15% of the chicks were also externally contaminated with Salmonella after pipping and 8% of the chicks had contaminated yolk sacs after pipping.

Newly hatched chicks are highly susceptible to colonization by SE, and the organism will rapidly spread throughout the flock after hatch.

Hens can also contract an SE infection by being exposed to another bird carrying the disease (spiking males for example).

How is SE detected?

Less than 10% of the yolks from orally inoculated hens will be contaminated with SE and produce an SE positive chick and at any time less than 2% of hens may be actively colonized with SE. This means that to find SE in a breeder flock, a large number of eggs or individual hens (at least 1,000) must be tested.

Alternatively, the barn environment can be sampled. While it is also difficult to detect SE in this way, it is a reasonable and practical alternative to sacrificing large numbers of eggs. Environmental sampling is the most common method used for flock monitoring.

Reference

Salmonella Penetration of Egg Shells and Proliferation in Broiler Hatching Eggs – A Review by N.A. Cox, M.E. Berrang and J.A. Cason. Journal of Poultry Science 2000.